Joint Center for Ocean Observing Technology

University of New Hampshire

We propose to establish the NOAA/UNH Joint Ocean Observing Technology Center to focus on the assembly of component subsystems to produce priority measurement and prediction services. The NOAA/UNH Joint Center for Ocean Observing Technology (herein called the "Center") will be a collaborative venture between the National Oceanic and Atmospheric Administration (NOAA), the University of New Hampshire (UNH), the Gulf of Maine Ocean Observing System (GoMOOS), and corporate partners such as Atmospheric and Environmental Research, Inc. (AER). The Center will work in concert with other NOAA-funded centers at UNH including the Cooperative Institute for Coastal and Estuarine Environmental Technology, the Center for Coastal Response Research, the Joint Hydrographic Center, and the Coastal Observing Center. This collaboration will leverage the expertise found in government agencies, universities, and commercial entities to provide weather, oceanographic, and climate products aimed at enhancing the quality of life and economical stability of the Gulf of Maine region.

The Center will develop and prototype new coastal and oceanic products that will enhance our understanding of the regional environment. The intent of these products, which will be developed for both the lay and experienced users, is to provide state-of-the-art short- and long-term weather, climate and other environmental information through the fusion of data from national and international satellite programs, regional *in situ* observation systems, and advanced data assimilation and modeling techniques.

The initial focus of the proposed Center will be to demonstrate pre-operational system-of-system prototypes by maximizing the extraction and integration of regional information from existing or planned observational platforms; enhancing and compositing diverse regional atmosphere-ocean-land observing system data; and coupling advanced regional modeling systems with visualization methodologies to produce better and more useful environmental predictions. Specific goals are to: (1) create and serve Web-based products designed for targeted user communities by fusing/synthesizing observations and model-generated results; (2) establish the Isles of Shoals Observatory as a test-bed facility for infusing new observing technology into the Gulf of Maine regional observing network; and (3) develop a regional-scale prototype system of systems for observing / modeling ocean-atmosphere-terrestrial interactions.